

Project ID
1

7/27/2010

Project Category
Livestock

Estimated Completion Date
June 2009

Project Status
Drafting Report

ProjectType
NAEMS: Dairy Emissions

Project Name
National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies

Project Description
Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	Ag Air Research Council (AARC)	\$250,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
Status update as of May 2008

Related info 2

Project ID
2

7/27/2010

Project Category
Livestock

Estimated Completion Date
May 2009

Project Status
Drafting Report

ProjectType
Dairy Emissions

Project Name
Ag Air Research Council (AARC)

Project Description
Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	ARB	\$40,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Y. Zhao	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
Status update as of May 2008

Related info 2

Project ID
3

7/27/2010

Project Category
Livestock

Estimated Completion Date
May 2009

Project Status
Drafting Report

ProjectType
NAEMS: Dairy Emissions

Project Name
Air Emissions from California Dairies, Part II

Project Description
Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	CDFA	\$70,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Y. Zhao	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
Status update as of May 2008

Related info 2

Project ID
4

7/27/2010

Project Category
Livestock

Estimated Completion Date
May 2009

Project Status
Drafting Report

ProjectType
NAEMS: Dairy Emissions

Project Name
Air Emissions from California Dairies, Part III

Project Description
Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	UC Davis, College of Ag and Env'a Sciences	\$40,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Y. Zhao	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
Status update as of May 2008

Related info 2

Project ID
5

7/27/2010

Project Category
Livestock

Estimated Completion Date
July 2008

Project Status
Draft Final Report

ProjectType
Dairy Emissions

Project Name
Process-Based Farm Emission Model to Estimate Air Emissions from California Dairies

Project Description
Using biological principles and engineering studies, develop a feed/waste stream process-based dairy farm emission model for VOC emissions.

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
R. Zhang	UC Davis	ARB	\$284,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
F. Mitloehner	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
A. Goldstein	UC Berkeley		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
Project description at <http://www.arb.ca.gov/ag/cafruihongzhangdairysymposiumoct06.pdf>

Related info 2
Draft report under review as of October 2009

Project ID
6

7/27/2010

Project Category
Livestock

Estimated Completion Date
January 2007

Project Status
Completed

ProjectType
Dairy Emissions

Project Name
Dairy Air Quality Monitoring of ROG and Ammonia in the Central Valley of California

Project Description
Maintain staffing and supplies for field and laboratory work to continue the ARB funded ROG project until 2006

Report Location
preliminary data available at: <ftp://ftp.arb.ca.gov/carbis/ag/agadvisory/krauter05jan26.pdf>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	CSU Agricultural Research Initiativ	\$208,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Goorahoo	CSU Fresno	ARB	\$104,000
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
B. Goodrich	CSU Fresno	SJVAPCD	\$104,000
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
M. Beene	CSU Fresno		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
<http://www.epa.gov/ttn/chief/conference/ei15/session6/beene.pdf>

Related info 2
http://www.epa.gov/ttn/chief/conference/ei14/session1/goorahoo_pres.pdf

Project ID
7

7/27/2010

Project Category
Livestock

Estimated Completion Date
June 2006

Project Status
Partially complete

ProjectType
Dairy Emissions

Project Name
Evaluating Dairy Ammonia, Methane, and Hydrogen Sulfide Emissions Using Tunable Diode Lasers

Project Description
Develop real-time methods for evaluating process and time specific emission profiles for NH3, CH4, and H2S at dairies. A program to monitor ammonia emissions using the USEPA Emission Isolation Flux Chamber began in 2006 and will continue through 2008. [No updates since 2006.]

Report Location
http://www.epa.gov/ttn/chief/conference/ei15/session6/beene.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
D. Goorahoo	CSU Fresno	CSU Agricultural Research Initiativ	\$98,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
C. Krauter	CSU Fresno	ARB	
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
B. Goodrich	CSU Fresno	Boreal Lasers	
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
http://www.4cleanair.org/Documents/APCODetermination.pdf

Related info 2
Abstract on page 9 at this site: http://www.epa.gov/ttn/chief/conference/ei14/final2005.pdf

Project ID
8

7/27/2010

Project Category
Livestock

Estimated Completion Date
June 2008

Project Status
Completed

ProjectType
Dairy Emissions Mitigation

Project Name
Dairy Operations: An Evaluation and Comparison of Baseline and Potential Mitigation Practices for Emissions Reductions In the San Joaquin Valley (Contract No. 04-343)

Project Description
Project is designed to obtain data needed to better estimate baseline dairy emissions and to estimate the emission reductions achievable with available control technologies.

Report Location
Report - <http://www.arb.ca.gov/research/apr/past/04-343.pdf>; Abstract - <http://www.arb.ca.gov/research/abstracts/04-343.htm>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	ARB	\$2
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Goorahoo	CSU Fresno	possible matching funds - CSUS Fresno Agricultural Research Initia	\$250,000
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
B. Goodrich	CSU Fresno		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
M. Beene	CSU Fresno		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
<http://www.epa.gov/ttn/chief/conference/ei15/session6/beene.pdf>

Related info 2
Continuation of previous work

Project ID
9

7/27/2010

Project Category
Livestock

Estimated Completion Date
December 2006

Project Status
Completed

ProjectType
Dairy Emissions Mitigation

Project Name
Air Emission Mitigation Techniques and Technologies for California Dairies

Project Description
Evaluate dairy PM10, 2.5, VOC, and ammonia emission mitigation practices for potential effectiveness. Includes lagoon and corral areas.

Report Location
http://www.arb.ca.gov/ag/caf/FrankMitloehnerDairySymposiumOct06.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	Merced County via SWRCB and U matching	\$600,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
R. Zhang	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
P. Robinson	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
J. Fadel	UC Davis		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
Project objective described in PowerPoint at: ftp://ftp.arb.ca.gov/carbis/ag/agadvisory/mitloehner05jan26.pdf

Related info 2
SJVAPCD Aug. 2005 VOC Emission Factors for Dairies, http://www.4cleanair.org/Documents/APCODetermination.pdf

Project ID
10

7/27/2010

Project Category
Livestock

Estimated Completion Date
June 2005

Project Status
Completed

ProjectType
Dairy VOC Emissions

Project Name
Volatile Organic Compound (VOC) Emissions from Cows Fed Typical California Rations

Project Description
Measurements of alcohols, volatile fatty acids, phenols, and methane (CH₄) emitted from nonlactating (dry) and lactating dairy cows and their manure under controlled conditions. The experiment was conducted in an environmental chamber that simulates commercial concrete-floored freestall cow housing conditions. The fluxes of methanol, ethanol, and CH₄ were measured from cows and/or their fresh manure.

Report Location
<http://jeq.sciijournals.org/cgi/content/full/37/2/615>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	US EPA	\$75,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
B. Flocchini	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
P. Robinson	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
<http://www.4cleanair.org/Documents/APCODetermination.pdf>

Related info 2
UCD Dairy Air Quality Symposium presentation 10-11-06 available at:
<http://www.arb.ca.gov/aa/caf/FrankMitloehnerDairySymposiumOct06.pdf>

Project ID
11

7/27/2010

Project Category
Livestock

Estimated Completion Date
June 2007

Project Status
Completed

ProjectType
Dairy Emissions Mitigation

Project Name
Effects of Liquid Dairy Manure Aeration on Air Quality and Nutrient Cycling

Project Description
This project will evaluate the air and water emission mitigation effects of a wastewater treatment technology for California dairies to determine whether/to what extent aerobic treatment systems can cost-effectively reduce environmental impacts associated with manure storage.

Report Location
Paper is presented in the book, "Dairy Manure Management: Treatment, Handling, and Community Relations". Available for \$42 at:
http://www.nraes.org/nra_order.taf?_function=detail&pr_id=48&_UserReference=8429860989D767704899E01F

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Collar	UCCE - Kings County	UC ANR	\$30,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
F. Mitloehner	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
J. McGarvey	USDA - ARS	UCCE	
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
12

7/27/2010

Project Category
Livestock

Estimated Completion Date
2006

Project Status
Completed

ProjectType
Dairy Waste

Project Name
Characterization of Dairy Waste Management Strategies with Regard to Pathogens and Air Quality

Project Description
Examine the effect that aerobic and anaerobic treatments have on the microbiological and chemical properties of waste.

Report Location
Abstract available at: http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=195211

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	USDA - ARS	\$30,300
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
R. Zhang	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
13

7/27/2010

Project Category
Livestock

Estimated Completion Date
September 2009

Project Status
In progress

ProjectType
Dairy Emissions

Project Name
Estimating and Reducing Air Emissions from Dairy Feeding Operations

Project Description

Report Location
Several study presentations, see below; no final report located.

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	USDA - CSREES	\$278,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
R. Zhang	UC Davis	USDA - ARS	
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
C. Krauter	CSU Fresno	CSU Fresno	
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
http://www.ag.iastate.edu/wastemgmt/Mitigation_Conference_proceedings/CD_proceedings/Animal_Housing-Treatment/Calvo-Freestall_housing.pdf

Related info 2
http://www.airquality.nrcs.usda.gov/AAQTF/Documents/200809_201008/200905_FresnoCA/01_Zhang_AAQTF_200905.pdf

Project ID
14

7/27/2010

Project Category
Livestock

Estimated Completion Date
June 2008

Project Status
Completed

ProjectType
Dairy Nutrient

Project Name
Nutrient Balances in California Dairy Herds

Project Description

Report Location
<http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
A. Costillo	UCCE Merced	UC ANR	\$40,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
F. Mitloehner	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
D. Bacon	UCCE Tulare		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
15

7/27/2010

Project Category
Livestock

Estimated Completion Date
March 2008

Project Status
Completed

ProjectType
Dairy Emissions

Project Name
Effects of Dietary Rumensin® on GHG and VOC Emissions from Lactating Dairy Cows

Project Description

Report Location
http://www.extension.org/pages/Environmental_Responses_to_Dietary_Monensin_in_Lactating_Dairy_Cows

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	Eli Lilly-Elanco	\$50,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
E. DePeters	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
J. MacGarvey	USDA - ARS		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
Hamilton, S.W., E.J. DePeters, J.A. McGarvey, J. Lathrop, and F.M. Mitloehner. 2010. Greenhouse Gas, Animal Performance, and Bacterial Population Structure Responses to Dietary Monensin Fed to Dairy

Related info 2

Project ID
16

7/27/2010

Project Category
Education

Estimated Completion Date
May 2010

Project Status
In Progress

ProjectType
Dairy Air Quality

Project Name
Western Region Dairy Odor and Air Quality Education

Project Description
The goal of this Professional Development Program grant is to reduce the environmental impacts of dairy farming in the West as a way to promote and guarantee the sustainability of the milk and cheese industries. The grant recipients plan to train agricultural professionals, selected from around the dairy producing areas of the Western region, on the best management practices available to dairy producers to mitigate the degradation of air quality. Four hands-on workshops will be conducted, introducing

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
P. Ndegwa	WSU	USDA - SARE	\$89,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
F. Mittloehner	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
R. Sheffield	Univ. of Idaho		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
Other researchers from NM State (R. Hagevoort) and OSU (M. Gamroth)

Related info 2

Project ID
18

7/27/2010

Project Category
Livestock

Estimated Completion Date
January 2008

Project Status
Draft Report

ProjectType
Steer Emissions

Project Name
Volatile Organic Compound and Greenhouse Gas Emissions from Growing and Finishing Feedlot Steers and Their Waste

Project Description
To quantify volatile organic compounds (alcohols, volatile fatty acids, amines, and phenols) and greenhouse gas (methane, nitrous oxide, and carbon dioxide) emissions from receiving, growing and finishing feedlot steers (enteric fermentation) and fresh waste using environmental chambers at UC Davis.

Report Location
Report submitted for publication

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	California Cattlemen Assoc.	\$169,590
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
S. Trabue	USDA - ARS	California Feeder Council	\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
Costs to be split between the two funding sources

Related info 2

Project ID
19

7/27/2010

Project Category
Livestock

Estimated Completion Date
December 2006

Project Status
Unknown

ProjectType
Equipment Study

Project Name
UC Equipment Matching Funds Program

Project Description
No description, but project cited at http://animalscience.ucdavis.edu/faculty/Mitloehner/pdf/Grants.pdf

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	UC Davis, Chancellor for Research	\$140,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
20

7/27/2010

Project Category
Dairy Digester

Estimated Completion Date
February 2009

Project Status
Completed

ProjectType
Covered Lagoon Emissions

Project Name
Covered Lagoon Digester Emission Measurements

Project Description
Measurements of NH3, methane, and VOCs at dairies with CEC funded dairy digester installations. Evaluates the Dairy Power Production Program (DPPP). The DPPP was initiated to encourage the development of biologically based anaerobic digestion and gasification ("iogas") electricity generation projects on California dairies.

Report Location
http://www.energy.ca.gov/2009publications/CEC-500-2009-009/CEC-500-2009-009.PDF

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Dairy Power Production Program	Western United Resource Dev't, Inc.	CEC, PIER	\$500,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
22

7/27/2010

Project Category
Livestock

Estimated Completion Date
2005

Project Status
Completed

ProjectType
Dairy PM, NH3 Sources

Project Name
Agricultural sources of PM10 and ozone precursors

Project Description
Compile PM10 and NH3 emission factors. Measure concentrations of VOC relevent to to ozone formation upwind and downwind of dairies

Report Location
http://www.reeis.usda.gov/web/crisprojectpages/192080.html . Contians citations for J. Air & Waste Manage. Assoc. 55:816-825 and J. Air & Waste Manage. Assoc. 55:826-833

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
R. Flocchini	UC Davis	USDA	\$374,145
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
C. Parnell	Texas A&M		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
R. Higashi	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
23

7/27/2010

Project Category
Livestock

Estimated Completion Date
June 2007

Project Status
Completed

ProjectType
Dairy Emissions Modeling

Project Name
Developing a Process Based Model for GHG for California Dairies, Contract 05-344

Project Description
Using biological principles and mass balance, develop a cradle-to-grave emissions model to provide greenhouse gas emissions estimates for dairies.

Report Location
http://www.arb.ca.gov/research/apr/past/05-344.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	CEC PIER	\$119,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
W. Salas	Univ. New Hampshire		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
R. Zhang	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
Funded with \$500,000 total - \$119,00 for Mitloehner portion

Related info 2
http://www.westerndairies.org/2009symposium/Mitloehner.pdf

Project ID
24

7/27/2010

Project Category
Livestock

Estimated Completion Date
2005

Project Status
Completed

ProjectType
Ammonia Modeling

Project Name
Development of a Process-Based Ammonia Model for Livestock Sources

Project Description
Develop a process-based model of ammonia emissions from five types of animal feeding operations: dairy, beef, swine, chicken, and turkey.

Report Location
EPA conference at: http://www.epa.gov/ttn/chief/conference/ei14/index.html (search Zhang)

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
G. Tonneson	UC Riverside	LADCO	\$250,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Z. Wang	UC Davis	Lake Michigan Air Directors Consortium	
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
R. Zhang	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
G. Mansell	ENVIRON Int'l Corp.		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
J. Haasbeek	ENVIRON Int'l Corp.		

Related info 1
Other researchers - J. Fadel, R. Zhang, G. Mansell, J. Haasbeek.

Related info 2
Abstract on page 9 at: http://www.epa.gov/ttn/chief/conference/ei14/final2005.pdf

Project ID
25

7/27/2010

Project Category
Education

Estimated Completion Date
March 2005

Project Status
Completed

ProjectType
Dairy Air Quality

Project Name
Development of an Air Module Curriculum for the California Dairy Quality Assurance Program (CDQAP)

Project Description

Report Location
http://www.cdqa.org/reports/CDQAP%20Annual%20Report%202005.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	US EPA	\$50,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Meyer	UC Davis, CDQAP		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
M. Payne			
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
http://www.4cleanair.org/Documents/APCODetermination.pdf

Related info 2

Project ID
26

7/27/2010

Project Category
Livestock

Estimated Completion Date
December 2005

Project Status
Completed

ProjectType
Dairy Ammonia Emissions

Project Name
Laser-based Sensors for Monitoring Ammonia Emissions

Project Description
A trace-gas sensor based on fibre-amplifier enhanced photoacoustic spectroscopy has been developed for measuring ambient ammonia in agricultural settings. Field testing was performed in environmental chambers at UC Davis where the excreta from three Holstein cows were allowed to accumulate, providing a source of ambient ammonia.

Report Location
http://www.pranalytica.com/pdf/MST-16-1547-2005.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Patel	Pranalytica	USDA - SBIR I	\$20,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
F. Mitloehner	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
\$79,000 total; \$20,000 for Mitloehner portion

Related info 2
Institute of Physics Publishing, Meas. Sci. Technol. 16 (2005) 1547-1553

Project ID
27

7/27/2010

Project Category
Livestock

Estimated Completion Date
December 2006

Project Status
Completed

ProjectType
Dairy Ammonia Emissions

Project Name
Laser-based Sensors for Monitoring Ammonia Emissions

Project Description
A trace-gas sensor based on fibre-amplifier enhanced photoacoustic spectroscopy has been developed for measuring ambient ammonia in agricultural settings. Field testing was performed in environmental chambers at UC Davis where the excreta from three Holstein cows were allowed to accumulate, providing a source of ambient ammonia.

Report Location
http://www.iop.org/EJ/abstract/0957-0233/16/8/002

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Patel	Pranalytica	USDA - SBIR II	\$75,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
F. Mitloehner	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
\$350,000 (\$75,000 for Mitloehner portion)

Related info 2

Project ID
28

7/27/2010

Project Category
Livestock

Estimated Completion Date
July 2005

Project Status
Completed

ProjectType
Pig Study

Project Name
Effect of Atmospheric Ammonia on Pig Welfare

Project Description

Report Location
08/24/07 Pork Board abstract: http://www.pork.org/PorkScience/Research/Documents/03-159-MITLOEHNER.ABS.8-27-04.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	National Pork Board	\$40,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
29

7/27/2010

Project Category
Worker Exposure

Estimated Completion Date
September 2011

Project Status
In progress

ProjectType
Dairies

Project Name
Respiratory Exposures and Health of Workers on California Dairies (NIOSH)

Project Description
Monitor exposures of 200 dairy workers at large dairies to dust and ammonia to define the concentrations of any airborne pollutants highly associated with respiratory problems.

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	NIOSH	\$1,700,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
M. Schenker	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
D. Bennett			
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
UC Davis' program - CA Dairy Environ Health Research Initiative (Cal-DEHRI)

Related info 2
Field phase in progress, June 2008

Project ID
30

7/27/2010

Project Category
Pesticide Study

Estimated Completion Date
February 2006

Project Status
Completed

ProjectType
Ozone Impacts

Project Name
Investigation of Atmospheric Ozone Impacts of Selected Pesticides

Project Description
Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.

Report Location
Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
W. Carter	UC Riverside	ARB	\$100,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
31

7/27/2010

Project Category
Pesticide Study

Estimated Completion Date
June 2007

Project Status
Completed

ProjectType
VOC Emissions

Project Name
Agricultural Pesticide VOC Sources and their Photochemical Ozone Formation Potential

Project Description
Improve current understanding of the photochemical O3 formation potential of VOCs from agricultural pesticide applications in the San Joaquin Valley.

Report Location
<http://www.reeis.usda.gov/web/crisprojectpages/204179.html>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
B. Flocchini	UC Davis	USDA	\$400,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
R. Higashi	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
M. Kleeman	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
P. Green	UC Davis		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
http://airquality.ucdavis.edu/pages/events/2008/green_acres/GREEN.pdf

Related info 2

Project ID
32

7/27/2010

Project Category
Pesticide Study

Estimated Completion Date
2005

Project Status
Completed

ProjectType
Fumigation

Project Name
Commercialization of Intermittent Water Sealing

Project Description
Identify optimal water management strategies for water sealing commercial-scale application of fumigants.

Report Location
http://mbao.org/2005/MBAO%202005%20pdfs/Preplant/8/Sullivan.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
D. Sullivan	Sullivan Environmental Consulting	USDA	\$78,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
H. Ajwa			
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
J. Radewald			
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
CDPR participated in the study

Related info 2

Project ID
33

7/27/2010

Project Category
On-Field

Estimated Completion Date
December 2005

Project Status
Completed

ProjectType
Soil Ammonia Emisissions

Project Name
Improved Statewide Estimates of Ammonia Emissions from Native Soils in California

Project Description
Develop California specific ammonia emission factors and modeling for native soils within California

Report Location
http://www.epa.gov/ttn/chief/conference/ei12/part/krauter.pdf (2003)

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	ARB	\$200,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
C. Potter	NASA Ames		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
S. Klooster	CSU Monterey		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
http://geo.arc.nasa.gov/sge/casa/regional/california.html

Related info 2

Project ID
34

7/27/2010

Project Category
On-Field

Estimated Completion Date
June 2005

Project Status
Completed

ProjectType
Crop ammonia Emissions

Project Name
Monitoring of Ammonia Emissions from Crop Production With a Tunable Diode Laser

Project Description
Evaluate the use of a TDL system for the determination of ambient ammonia levels and ammonia emissions from specific agricultural operations.

Report Location
Partial, 2005 EPA conference. http://www.epa.gov/ttn/chief/conference/ei14/index.html (search Krauter)

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	CSU Agricultural Research Initiativ	\$296,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Goorahoo	CSU Fresno	ARB	\$148,000
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
B. Goodrich	CSU Fresno	Unisearch	\$148,000
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
M. Beene	CSU Fresno		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
\$296,000 ARI to match ARB and UniSearch funding

Related info 2

Project ID
35

7/27/2010

Project Category
On-Field

Estimated Completion Date
2011 (CA in 2009)

Project Status
In Progress

ProjectType
PM Emissions

Project Name
Cotton Gin PM Emissions Research

Project Description
Evaluate the accuracy of US EPA's sampling methods which may significantly over-estimate PM emissions (CTM-039, P 2.5 Stack Sampling Method). Develop PM dispersion models for PM10, PM2.5, total suspended particulates (TSP). Characterize particle size, shape. Six test sites, 1 in CA.

Report Location
Quarterly reports submitted during research phase

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
M. Buser	USDA ARS Lubbock TX	Various cotton industry and ginners associations	\$147,500
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Whitelock	ARS - SW Cotton Ginning Research Lab, ARS	ARB	\$45,000
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
C. Boykin	Cotton Ginning Research Unit, ARS	SJVAPCD	\$36,000
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
36

7/27/2010

Project Category
On-Field

Estimated Completion Date
2010

Project Status
In Progress

ProjectType
PM Emissions

Project Name
Evaluation of PM Emissions from Raisin Harvesting

Project Description
Evaluate emissions from three different table grape harvesting techniques

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	??	
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
J. Siliznoff			
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
37

7/27/2010

Project Category
On-Field

Estimated Completion Date
2010

Project Status
Drafting Rpeorts

ProjectType
Emissions Mitigation

Project Name
Testing to Determine Emissions Reductions Achieved by Lower Emitting Agricultural Practices

Project Description
Evaluation of control effectiveness of two SJVAPCD Conservation Management Practices for PM (conservation tillage and combined operations)

Report Location
Draft report of Los Banos work is under reiev

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
		US EPA RARE	
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
38

7/27/2010

Project Category
On-Field

Estimated Completion Date
2011

Project Status
In Progress

ProjectType
N2O Emissions

Project Name
Fertilizer N2O Research, Assessment of Baseline Nitrous Oxide and Nitric Oxide Emissions in California Cropping Systems (Agreement 08-324)

Project Description
Researchers are coordinating study goals and methods to evaluate flux emissions of N2O using typical fertilizer practices for each crop. Work began in June 2009. Measuring nitrous oxide flux in tomato, wheat, lettuce, rice, and alfalfa systems to develop emission factors. See also Project ID 62, contract 09-329, which adds on evaluation of nitric acid.

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
W. Horwath	UC Davis	ARB	\$83,500
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
J. Six	UC Davis	CEC	
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
D. Goorahoo	CSU Fresno	CDFA	
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
See Project ID 62, contract 09-329, which is an add-on to study nitric acid

Related info 2

Project ID
39

7/27/2010

Project Category
Pesticide Study

Estimated Completion Date
October 2007

Project Status
Completed

ProjectType
VOC

Project Name
DPR Round-Robin VOC Study

Project Description
Determine ways to improve VOC emission estimates for solvents in pesticide formulations by comparing the emissions under field conditions to emissions seen in traditional TGA testing. Results showed more ozone production on the downwind side, but only slightly. Most of the VOC increase after spraying is NOT from the solvent being regulated but from EtOH in fuel. To decrease ozone, NOx reduction more important than VOC reduction.

Report Location
presentation at CDPR, date unknown:
http://www.cdpr.ca.gov/docs/emon/vocs/vocproj/voc_regional_ozone.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
P. Green	UC Davis	None; cooperative effort of industry including European partners	\$0
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
40

7/27/2010

Project Category
On-Field

Estimated Completion Date
December 2009

Project Status
Completed

ProjectType
Soil VOC Emissions

Project Name
Reducing Emissions of VOCs from Agricultural Soil Fumigation, ARB contract 05-351

Project Description
Original study plus extension: Develop estimates for cumulative and hourly emissions rates from laboratory, field plot and predictive models which will be compared to previous large-scale field experiments on several emission reduction strategies

Report Location
http://www.arb.ca.gov/research/apr/past/05-351.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Scott Yates	UC Riverside	ARB	\$200,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Jay Gan	UC Riverside	2007 Extension: ARB	\$100,000
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
M. Majewski	UC Riverside		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
D. Wang	UC Riverside		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Q. Wang	UC Riverside		

Related info 1
ARB agreement 05-351

Related info 2

Project ID
41

7/27/2010

Project Category
Livestock

Estimated Completion Date
August 2001

Project Status
Completed

ProjectType
Dairy & Feedlot Emissions

Project Name
Interim Report: Sources and Sinks of PM10 in the San Joaquin Valley, August 2001

Project Description
Evaluate on-field PM10 emissions. Evaluate PM10 and ammonia emissions for feedlots and dairies.

Report Location
http://www.arb.ca.gov/research/apr/reports/l2022.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
R. Flocchini	UC Davis	USDA	
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
T. Cassel	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
42

7/27/2010

Project Category
On-field

Estimated Completion Date
June 2001

Project Status
Completed

ProjectType
Ammonia Emissions

Project Name
Statewide Inventory Estimates of Ammonia Emissions from Native Soils and Chemical Fertilizers in California

Project Description
Measure and model ammonia emissions from agricultural fertilizer application and natural soils. Report available at: ftp://ftp.arb.ca.gov/carbis/reports/l522.pdf

Report Location
http://www.arb.ca.gov/research/apr/reports/l522.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	ARB	\$186,425
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
C. Potter	NASA Ames		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
S. Klooster	CSU Monterey		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
43

7/27/2010

Project Category
Livestock

Estimated Completion Date
June 1996

Project Status
Completed

ProjectType
Dairy Emissions

Project Name
Results of the Measurement of PM10 Precursor Compounds from Dairy Industry Livestock Waste

Project Description
Using environmental flux chambers, evaluate dairy ammonia and ROG emissions.

Report Location
<http://www.epa.gov/ttn/chief/conference/ei14/session1/schmidt.pdf>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Schmidt	Consultant	South Coast AQMD	
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
<http://www.aqmd.gov/rules/proposed/pr1127.html>

Related info 2

Project ID
44

7/27/2010

Project Category
Pesticide Study

Estimated Completion Date
January 1995

Project Status
Completed

ProjectType
VOC Emissions

Project Name
Results of the Measurement of Volatile Organic Compounds from Livestock Wastes

Project Description
Evaluate process specific VOCs from dairies in the Sacramento region.

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Schmidt	Consultant	US EPA	
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
http://www.4cleanair.org/Documents/APCODetermination.pdf

Related info 2

Project ID
45

7/27/2010

Project Category
Livestock

Estimated Completion Date
January 2002

Project Status
Completed

ProjectType
Dairy Waste Management

Project Name
Survey Current Livestock Waste Management Practices in the South Coast Air Basin

Project Description
Evaluate manure management practices in the SCAQMD http://www.aqmd.gov/rules/proposed/pr1127.html

Report Location
http://www.aqmd.gov/rules/support.html

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Egigian-Nichols	Tetra Tech Inc	South Coast AQMD	
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
46

7/27/2010

Project Category
Literature Review

Estimated Completion Date
March 2003

Project Status
Completed

ProjectType
Waste Management

Project Name
Literature Survey and National Programs, Livestock Waste Management Practices Survey and Control Option Assessment

Project Description
Literature survey of waste management and control options. http://www.aqmd.gov/rules/proposed/pr1127.html

Report Location
http://www.aqmd.gov/rules/support.html

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Egigian-Nichols	Tetra Tech Inc	South Coast AQMD	
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
47

7/27/2010

Project Category
Livestock

Estimated Completion Date
March 2003

Project Status
Completed

ProjectType
Waste Management

Project Name
Identify Potential Waste Management Practices Reducing Ammonia and VOCs, Livestock Waste Management Practices Survey and Control Option Assessment

Project Description
Identify livestock practices to reduce emissions. <http://www.aqmd.gov/rules/proposed/pr1127.html>

Report Location
<http://www.aqmd.gov/rules/support.html>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Egigian-Nichols	Tetra Tech Inc	South Coast AQMD	
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
48

7/27/2010

Project Category
Livestock

Estimated Completion Date
December 2003

Project Status
Completed

ProjectType
Waste Management

Project Name
Emissions of Particulate Matter and Ammonia from Cattle Feedyards and Dairies: a Texas-California Partnership

Project Description
Quantify the effects of water application and manure harvest frequency on PM and NH3 emission from dry lots housing beef or dairy animals (heifers).

Report Location
http://amarillo.tamu.edu/~bauvermann/ConferenceProceedings/effectofsprinkling.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
B. Auvermann	Texas CEC	National Center for Manure and Animal Waste Management	\$12,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
W. Harman	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
D. Meyer	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
http://amarillo.tamu.edu/~bauvermann/ConferenceProceedings/index.htm

Related info 2

Project ID
49

7/27/2010

Project Category
Livestock

Estimated Completion Date
Complete

Project Status
Completed

ProjectType
Dairy Emissions

Project Name
Evaluating Dairy Process Emissions Using Flux Chambers

Project Description
Using environmental flux chambers at a working dairy, evaluate relative emission levels of individual process including lagoons, flush lanes, and corrals.

Report Location
Technical Memorandum at: http://www.arb.ca.gov/ag/caf/SchmidtDairyTestData2005.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Schmidt	Contractor	ARB	\$50,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
		SJVAPCD	
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
http://www.4cleanair.org/Documents/APCODetermination.pdf

Related info 2

Project ID
50

7/27/2010

Project Category
Livestock

Estimated Completion Date
December 2005

Project Status
Completed

ProjectType
Dairy Emissions

Project Name
Measuring Dairy Cow Emissions in an Environmental Chamber

Project Description
Place cows into an environmentally controlled chamber and evaluate speciated VOC emissions emitted directly from cows and from fresh waste products.

Report Location
Final Report May 31, 2006. <http://www.arb.ca.gov/ag/caf/MitloehnerDairyChamberEmissions2006.pdf>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	US EPA	\$75,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
R. Flocchini			
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
J. Peters			
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
<http://www.4cleanair.org/Documents/APCODetermination.pdf>

Related info 2
J Environ Qual 37:615-622 (2008)

Project ID
51

7/27/2010

Project Category
Livestock

Estimated Completion Date

Project Status
Completed

ProjectType
Dairy Emissions

Project Name
Volatile Fatty Acids, Amine, and Phenol Emissions from Cows and their Waste

Project Description

Report Location
<http://www.arb.ca.gov/ag/caf/MitloehnerDairyChamberEmissions2006.pdf>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	ARB	\$200,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
S. Trabue	USDA ARS		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
J. Koziel	ISU		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
E. DePeters	ISU		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
<http://www.4cleanair.org/Documents/APCODetermination.pdf>

Related info 2
<http://jeq.scijournals.org/cgi/content/full/37/2/615>

Project ID
52

7/27/2010

Project Category
On-Field

Estimated Completion Date
June 2004

Project Status
Completed

ProjectType
Almond Harvest Emissions

Project Name
Improvement of PM10 emission factors for almond harvesting

Project Description
Refine existing PM10 emission factors for almond harvesting. Estimates based on measured PM10 during almond sweeping and pick up.

Report Location
abstract available at: http://asae.frymulti.com/abstract.asp?aid=20039&t=2

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
R. Flocchini	UC Davis	Almond Board of California	
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
C. Parnell	Texas A&M		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
Results showed that in all instances, the concentrations obtained from using the PM10 sampler were always higher than those obtained from using the TSP sampler.

Related info 2
Contact Terry Cassel, UCD to see if report available: tacassel@ucdavis.edu

Project ID
53

7/27/2010

Project Category
Livestock

Estimated Completion Date
July 2007

Project Status
Completed

ProjectType
Dairy VOC Emissions

Project Name
Photochemical Ozone Formation Potential of Agricultural VOC Sources

Project Description
Ozone formation potential of emissions from dairy cattle was much lower than predicted using regulatory profiles. The majority of the ozone formation is explained by ethanol (EtOH) emissions, not by acetone as previously thought. Ozone formation potential is generally small (<20 ppb) when EtOH conc. were 200 ppb and NOx conc. were 50 ppb. Results suggest that decreasing ROG (VOC) from dairy cattle, specifically by decreasing EtOH conc., will not likely lead to decreased ozone in the SJV.

Report Location
http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VH3-4S0YXTM-2&_user=1928924&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_version=1&_urlVersion=0&_userid=1928924&md5=e020b1203499a23d500c0127b4460438

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
P. Green		USDA	\$300,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
F. Mitloehner			
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
R. Flocchini			
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
presentation at CDPR, date unknown:
http://www.cdpr.ca.gov/docs/emon/vocs/vocproj/voc_regional_ozone.pdf

Related info 2
Alternate site for report: Go to <http://dx.doi.org> and enter "doi:10.1016/j.atmosenv.2008.02.064"

Project ID
54

7/27/2010

Project Category
Livestock

Estimated Completion Date
May 2005

Project Status
Completed

ProjectType
Broiler Emissions

Project Name
Measuring Broiler Emissions in Tunnel Ventilated Housing

Project Description
Measure PM10, ammonia, and speciated TOG emissions emitted from a tunnel ventilated broiler house during various stages of bird growth.

Report Location
http://www.arb.ca.gov/ag/caf/poulemisrpt.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
M. Summers	CDFA	California Poultry Federation	\$40,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Duke	Foster Farms		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
55

7/27/2010

Project Category
Livestock

Estimated Completion Date
December 2005

Project Status
Completed

ProjectType
Dairy ROG Emissions

Project Name
Evaluating Dairy Reactive Organic Gas Emissions

Project Description
Chemically speciate ROG samples collected at dairies. Attempt to develop emission factors for dairies and some individually tested dairy processes. Further study continues in 2005-2008.

Report Location
Results at 2005 US EPA Emissions Inventory Conference -
[http://www.airquality.nrcs.usda.gov/AAQTF/Documents/Amarillo_2005/Presentation-CA%20Dairy%20ROGs%20\(Krauter%20AAQTF%20Amarillo%2006-05\).pdf](http://www.airquality.nrcs.usda.gov/AAQTF/Documents/Amarillo_2005/Presentation-CA%20Dairy%20ROGs%20(Krauter%20AAQTF%20Amarillo%2006-05).pdf)

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	ARB	\$100,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Goorahoo	CSU Fresno	CSU Foundation	\$20,000
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
B. Goodrich	CSU Fresno		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
M. Beene	CSU Fresno		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
<http://www.4cleanair.org/Documents/APCODetermination.pdf>

Related info 2
<http://www.epa.gov/ttn/chief/conference/ei15/session6/beene.pdf>

Project ID
56

7/27/2010

Project Category
Livestock

Estimated Completion Date
September 2008

Project Status
In progress

ProjectType
Dairy Waste Management

Project Name
Dairy Wastewater Treatment Feasibility Study

Project Description
Assess the feasibility of applying standard wastewater treatment technology to the management of manure from cows in typical California dairies. EPA plans to incorporate this information into its on-going assessment of technologies for dairy manure management.

Report Location
(When available) <http://www.epa.gov/region09/ag/dairy/technologies.html>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Trygve Lundquist	Cal-Poly SLO	US EPA	\$19,936
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
			\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
<http://www.arb.ca.gov/ag/cafdairypanel/dairypanel.htm>

Related info 2
<http://works.bepress.com/tlundqui/2/>

Project ID
57

7/27/2010

Project Category
On-Field

Estimated Completion Date
June 2011

Project Status
In progress

ProjectType
Soil VOC Emissions

Project Name
Reducing Emissions of VOCs from Agricultural Soil Fumigation: Comparing Emission Estimates from Simplified Methodology, ARB contract 07-332

Project Description
For a single soil, determine the extent to which laboratory and modeling studies can simulate field emission data. Extend the range of emission reduction strategies assessable in the field using the laboratory and modeling approaches. Variables under investigation include columns/furrows, with tarped/untarped, VIF vs. HPDE covered beds/furrows.

Report Location
Progress reports began in 2009

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Scott Yates	USDA-ARS-Riverside	ARB	\$100,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Daniel Ashworth	USDA-ARS	DPR	\$50,000
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1
ARB agreement 07-332

Related info 2
USDA project 5310-12130-008-05

Project ID
58

7/27/2010

Project Category
Organic Waste Composting

Estimated Completion Date
January 2010

Project Status
Draft Report

ProjectType
VOC Emissions

Project Name
Emission of GHGs Resulting from Greenwaste Composting

Project Description
Construct 5 windrows, monitor oxygen, pH, ammonia, nitrate, nitrite, nitric oxide, methane, hydrogen sulfide and moisture at the core of the windrows; collect emission flux samples using a isolation flux chamber and analyze samples for methane, carbon dioxide, nitrous oxide, and IVMNEOC for 100 days

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Fatih Buyuksonmez	UC San Diego	SJVAPCD	\$198,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
			\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
59

7/27/2010

Project Category
Livestock

Estimated Completion Date
April 2010

Project Status
In Progress

ProjectType
NAEMS: Layer Emissions

Project Name
NAEMS Project: Air Emissions from California Layer Farms

Project Description
This project is for conducting a two-year measurement and monitoring of air emissions from a layer farm in CA. The emissions from two mechanically ventilated layer houses are measured. The houses have approximately 68,000 hens in cages. The measured emissions include ammonia, hydrogen sulfide, carbon dioxide, volatile organic compounds, total suspended particulates, PM2.5 and PM10. In addition, the detailed information and data are collected on ventilation, indoor and outdoor environmental
Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
R. Zhang	UC Davis	Ag Air Research Council	\$199,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
			\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
60

7/27/2010

Project Category
Livestock

Estimated Completion Date
April 2010

Project Status
In Progress

ProjectType
NAEMS: Broiler Emissions

Project Name
NAEMS Project: Air Emissions from California Broiler Farms

Project Description
This project is for conducting a two-year measurement and monitoring of air emissions from a broiler farm in CA. The emissions from two mechanically ventilated broiler barns are measured. The two broiler barns house about 42,000 broilers in each chicken production cycle. The measured emissions include ammonia, hydrogen sulfide, carbon dioxide, methane, nitrous oxide, ethanol, volatile organic compounds, total suspended particulates, PM2.5 and PM10. In addition, the detailed information and data are

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
R. Zhang	UC Davis	Ag Air Research Council	\$219,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
			\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
61

7/27/2010

Project Category
Livestock

Estimated Completion Date
June 2012

Project Status
In progress

ProjectType
Dairy N2O Emissions

Project Name
Assessment of Baseline Nitrous Oxide Emissions in California Dairy Systems, Contract 09-325

Project Description
N2O emissions will be measured in silage corn systems of three dairy farms in Stanislaus County. The N2O flux will be measured intensively, using static chamber techniques. Annual N2O emissions will be calculated. The annual N inputs in the form of solid manure, lagoon water, and synthetic fertilizer will be accounted for to enable calculation of the fraction of applied N that was emitted as N2O, i.e., the system specific emission factor.

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
William Horwath	UC Davis	ARB	\$300,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
			\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
62

7/27/2010

Project Category
On-Field

Estimated Completion Date
June 2012

Project Status
In Progress

ProjectType
Soil NOx Emissions

Project Name
Determining NOx Emissions from Soil in California Cropping Systems to Improve Ozone Modeling, Contract 09-329

Project Description
Add-on to contract 08-324, Project ID 38

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
William Horwath	UC Davis	ARB	\$83,500
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
			\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
63

7/27/2010

Project Category
Biogenics

Estimated Completion Date
December 2009

Project Status
In progress

ProjectType
Ozone Emissions

Project Name
Flux Measurements of Biogenic Precursors to Ozone and Particulate Matter in the Central Valley, Contract 06-329

Project Description

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Allen Goldstein	UC Berkeley	ARB	\$400,003
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
			\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
64

7/27/2010

Project Category
Biogenics

Estimated Completion Date

Project Status

ProjectType
VOC Emissions

Project Name
Improving Regional Biogenic VOC Emissions Estimate Using an Airborne PTR MS Eddy Flux Measurement System

Project Description

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Allen Goldstein	UC Berkeley	ARB	\$400,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Alex Guenther	UC Berkeley		\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
65

7/27/2010

Project Category
Dairy Digester

Estimated Completion Date
December 2010

Project Status
Draft protocol

ProjectType
Removign H2S from Biogas

Project Name
Removal of H2S from Biogas and NOx from Engine Exhaust at a Dairy Digester Using Microwave Technology, contract #ICAT 0803

Project Description
The project will monitor the performance of the H2S removal system and the NOx removal system on the biogas powered engine at the Tollenaar Holsteins Dairy Farm. Anaerobic digester gas (biogas) is captured from a heated, mixed digester and used to fuel a 212 kW Guascor engine-generator. H2S is currently removed from the biogas using an aerated water bubbler system (Soloscrub).

Report Location

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Mark Rawson	SMUD	SMUD	\$246,309
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Chang Cha	Cha Corporation		\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
Dan Greenberg	Applied Filter Technology		\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
66

7/27/2010

Project Category
Pesticide Study

Estimated Completion Date
2007

Project Status
Completed

ProjectType
Fumigant Emissions

Project Name
Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF)

Project Description
Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) for 1,3-D, chloropicrin, methyl bromide

Report Location
http://www.agecon.ucdavis.edu/extension/update/articles/v9n5_3.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Steve Fennimore	UC Davis	USDA-CSREES	\$0
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Husein Ajwa	UC Davis	Stawberry Commission	\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
67

7/27/2010

Project Category
Pesticide Study

Estimated Completion Date
2006

Project Status
Completed

ProjectType
Fumigant Emissions

Project Name
Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF)

Project Description
Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin

Report Location
http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Thomas Trout	USDA-ARS		\$0
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
S. Gao	USDA-ARS		\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
68

7/27/2010

Project Category
Pesticide Study

Estimated Completion Date
2007

Project Status
Completed

ProjectType
Fumigant Emissions

Project Name
Reductions of Fumigant Emissions using Irrigation and Virtually Impermeable Films (VIF)

Project Description
Reductions of Fumigant Emissions using Irrigation and Virtually Impermeable Films (VIF) for 1,3-D, Chloropicrin and methyl bromide

Report Location
<http://mbao.org/2008/035Ajwa.pdf>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Husein Ajwa	UC Davis	UC Davis	\$0
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
			\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2

Project ID
69

7/27/2010

Project Category
Pesticide Study

Estimated Completion Date
2007

Project Status
Completed

ProjectType
Fumigant Emissions

Project Name
Reductions of Fumigantemissiosn using Irrigation

Project Description
Evaluation of fredcutions in fumigant emissions using tarps; focs on 1,3-D.

Report Location
<http://mbao.org/2008/035Ajwa.pdf>

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Husein Ajwa	UC Davis	UC Davis	\$0
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
			\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Related info 1

Related info 2